

GOVERNMENT OF INDIA.
DEPARTMENT OF EDUCATION, HEALTH AND LANDS.



**(Sixth) Report showing the progress made in
giving effect to the recommendations of the
Royal Commission on Agriculture in India up
to the end of 1937.**

PART I.—CENTRAL GOVERNMENT.

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Report showing the action taken by the Government of India, up to the end of 1937, on the recommendations of the Royal Commission on Agriculture in India with which they are concerned.

(*Abbreviation used.*—I. C. A. R.=Imperial Council of Agricultural Research.)

CHAPTER III.—Organisation of Agricultural Research.

1. Constitution of Council of Agricultural Research. (Recommendations 1 to 17 and 19—paragraphs 40—55 and 57-58.)

Recommendations 1, 2 and 3. Closer liaison between the Imperial Agricultural Research Institute and Provincial Agricultural Departments.—As the heads of Provincial Agricultural Departments and the Director, Imperial Agricultural Research Institute, are members of the Advisory Board of the Imperial Council of Agricultural Research, the meetings of the Board and of the various standing and *ad hoc* committees of the Council provide the necessary liaison between the Imperial Agricultural Research Institute and the Provincial Agricultural Departments.

Recommendation 4. Establishment of the Imperial Council of Agricultural Research.—The Council was established by Government of India Resolution No. 826-Agri. of 23rd May 1929 and registered as a Society with the following principal objects :—

- (a) to aid, develop and co-ordinate agricultural and veterinary research in India by promoting scientific (including technological research, instruction and experiments in the science), methods and practice of agriculture (including the marketing of agricultural produce) and by promoting veterinary research and instruction in veterinary science, by the diffusion of useful information and by such other means as appear calculated to develop agricultural and veterinary research.
- (b) to act as a clearing house of information not only in regard to research but also in regard to agricultural and veterinary matters generally.
- (c) for the purposes of the Society to draw and accept and make and endorse, discount and negotiate Government of India and other promissory notes, bills of exchange, cheques or other negotiable instruments.

The activities of the Council have expanded considerably within the limits set for it by its Memorandum of Association.

A review of the research work conducted under its auspices so far was made by two distinguished British experts, Sir John Russell and Dr. N. C. Wright. These two experts have made very important suggestions in their reports which are under consideration. It is expected that these will have considerable effect on the future activities of the Council.

Recommendation 5. Financing of the Imperial Council of Agricultural Research.—In addition to the grants made to the Imperial Council of Agricultural Research, as detailed below, the Government of India meet the cost of its Secretariat including the salaries of the Vice-Chairman, Expert Advisers and Secretary. In addition, the Government of India meet the entire cost of the office of the Agricultural Marketing Adviser and the Central Marketing staff and the Imperial Institute of Sugar Technology at Cawnpore. Both these Offices are under the administrative control of the Imperial Council of Agricultural Research Department.

CHAPTER III.—Organisation of Agricultural Research—*contd.*

Statement showing grants made by the Government of India to the Imperial Council of Agricultural Research during 1929-30 to 1937-38.

	Rs.	Rs.
1. Non-recurring initial lump sum grant	25,00,000	
2. Grant for research work at Rs. 5 lakhs per annum (from 1930-31 to 1937-38)	40,00,000	
3. Special grant for urgent Agricultural (including Animal Husbandry and Sugar) Schemes, 1936-37	11,36,476*	
4. Grant for Sugar Research	20,33,000	
5. Grant for Provincial Marketing Schemes (1934-35 to 1937-38)	6,33,000	
6. Cold Storage Grant	1,00,000	
7. Grant for Agricultural and Veterinary Survey in Coorg	4,000	
8. Grant from Sugar Excise Fund (1937-38)	2,50,000	
Total	1,06,56,476	1,06,56,476

* Reduced grant since the previous report issued.

Administration of the Imperial Council of Agricultural Research Department.

	Rs.	
1920-30	1,34,000	
1930-31	2,38,000	
1931-32	2,28,000	
1932-33	1,98,000	
1933-34	2,21,000	
1934-35	2,29,000	
1935-36	2,50,000	
1936-37	3,09,000	
1937-38	3,50,000	
Total	21,62,000	21,62,000

Office of the Agricultural Marketing Adviser to the Government of India.

	Rs.	
1934-35	21,000	
1935-36	2,38,475	
1936-37	2,47,576	
1937-38	2,65,000 (estimates).	
Total	7,72,060	7,72,060†

Imperial Institute of Sugar Technology.

	Rs.	
1936-37	1,10,026	
1937-38	2,51,000	
Total	3,61,026	3,61,025†

GRAND TOTAL 1,39,51,562
or 1,39,52,000 (round).

† These grants are not made to the Imperial Council of Agricultural Research but are made under budget heads of the Central Government.

CHAPTER III.—Organisation of Agricultural Research—*contd.*

Recommendation 6. Training of Research Workers.—The Imperial Council of Agricultural Research has not yet instituted any system of scholarships for the higher training of research workers, as it was the view of the Advisory Board and Governing Body that having regard to the number of scholarships given by other organisations for higher training abroad the Council's funds should, for the present, be devoted to actual research. It has, however, arranged for higher training and research in the following special branches of science of 10 workers :—

Dairy Technology	1
Virus diseases of plants	1
Cytology	2
Soil Microbiology	1
Physiology of fruit trees	1
Insect pests	1
Agri. Biometrics	1
Soil Chemistry	1
Gas Storage of fruits	1

It has also made a grant to the Calcutta University for special post-graduate training in statistics. It may be added that the research schemes at present financed by the Council employ about 300 research workers and assistants so that the number of science and agricultural graduates receiving training in research methods is large.

Recommendation 7. Council as a clearing house of information.—This recommendation was acted upon on a very limited scale up to 1937, as financial stringency had prevented the appointment of technical assistants to the Agricultural and the Animal Husbandry Experts to the Imperial Council of Agricultural Research. These technical assistants were appointed towards the second half of the year 1937. This has made possible considerable development under this head.

The Council has allotted part of its research grant to statistical work in this connection and the nucleus of an Animal Husbandry Bureau has been established and a small Locust Intelligence Bureau maintained. The work of the Sugar Bureau, Pusa, has been transferred to the Sugar Technologist to the Council and has been considerably expanded.

Recommendation 8. Publication work.—The publication work formerly done by the Imperial Agricultural Research Institute was taken over by the Council in January, 1931.

The following publications are now issued by the Council :—

- (1) The Indian Journal of Agricultural Science (Bi-monthly).
- (2) The Indian Journal of Veterinary Science and Animal Husbandry (Quarterly).
- (3) Agriculture and Livestock in India (Bi-monthly).
- (4) Agriculture and Animal Husbandry in India (Annual).
- (5) Scientific Monographs of the Imperial Council of Agricultural Research.
- (6) Miscellaneous Bulletins of the Imperial Council of Agricultural Research.
- (7) Catalogues of Indian Insects.

Recommendation 9. Sectional meetings of Experts in the various branches of Agricultural and Veterinary Science.—The Board of Agriculture and Animal Husbandry in India has been divided into two wings dealing respectively with (a) Crops and Soils and (b) Animal Health and Animal Husbandry. A meeting of Animal Husbandry Research Workers and others interested was held in February, 1936. The various standing and *ad hoc* Committees of the Advisory Board of the Imperial Council of Agricultural Research bring together many research workers both from the Agricultural Departments and Universities. The Council has also assisted in the formation of an Indian Society of Soil Science.

CHAPTER III.—Organisation of Agricultural Research—*contd.*

In 1937 the Council arranged two conferences, one of the Horticultural Research Workers engaged on its schemes and the other of the workers on the four dry farming schemes financed by the Council. In addition, periodical meetings of a small Committee to co-ordinate the work on oilseeds in the Punjab, the United Provinces and the Imperial Agricultural Research Institute, New Delhi, have also been organised.

Recommendation 10. Grants by the Council for Research.—Grants from the funds of the Council for research work are being made as recommended.

Recommendation 11. Alteration of Devolution Rules to permit of the development of Agricultural Research by a central authority.—This proved unnecessary. In practice grants are made to the Imperial Council of Agricultural Research which is a registered society.

Recommendations 12 to 17. Constitution of the Council and its whole-time officers.—These recommendations have been accepted and acted upon. The Imperial Council of Agricultural Research which was brought into existence as a consequence has, however, a somewhat different constitution from the one recommended, as it was found expedient to set up a separate Advisory Board to deal with Scientific and Technical matters and a Governing Body (mainly composed of Ministers of Agriculture and Representatives of the Central Legislature) to deal with questions of policy and finance.

Recommendation 19. Abolition of the post of Agricultural Adviser to the Government of India—The post of Agricultural Adviser to the Government of India has been abolished and the Advisory duties of this post have been taken over by the Vice-Chairman, Imperial Council of Agricultural Research, and his two expert colleagues.

2 Appointment of a whole-time Director for the Imperial Agricultural Research Institute, New Delhi. (*Recommendations 20 and 21—paragraphs 58-59.*)

These recommendations were accepted and the Secretary of State was requested to recruit a suitable candidate for the post. Dr. B. A. Keen of the Rothamsted Experimental Station, who was appointed by him as Director on a year's contract, in the first instance, joined the post in November, 1930. On his advice it was decided, in connection with certain retrenchment proposals, that the Director should take an active part in research and that his duties should be combined with those of Head of a Section. And from November, 1931, when Dr. Keen's contract terminated, to October, 1935, the combined post of Director and Head of a Section was held by officers of the I. A. S. Since October, 1935, an officer of the General Central Service, Class I, has been holding it in an officiating capacity. A decision regarding the permanent appointment has been further delayed owing to the recommendations made by Sir John Russell regarding the position and functions of the Institute.

3. Expansion of the Imperial Agricultural Research Institute as an educational centre. (*Recommendation 22—paragraph 60.*)

A preliminary examination of the question was made by the Government of India in 1929 and the Provincial Governments were informed that the Government of India had accepted the view of the Commission and were willing to take the necessary action to provide all the facilities possible for higher agricultural training at the Imperial Agricultural Research Institute, Pusa, as rapidly as financial conditions permitted, but that, as a preliminary to a decision as to the additional facilities which were required, it was essential that Provincial Governments should come to a decision on the policy they wished to adopt in regard to recruitment to their new Superior Provincial Agricultural Services. The majority of the Provincial Governments did not agree that the completion of a post-graduate course at Pusa would be an essential qualification for their superior provincial agricultural services and only a few of them could give an indication of the number of men whom they would wish to have trained annually.

The Government of India accepted the recommendations of the Royal Commission on Agriculture in India to make the Imperial Agricultural Research Institute at Pusa a centre for post-graduate training and to provide necessary facilities as rapidly as financial conditions permitted. They sought the advice of the Imperial Council of Agricultural Research, and, the Advisory Board of the Council, in January 1931, adopted the following general Resolution on the subject :—

“That Pusa should continue to be developed actively and to the greatest possible extent as an Institute for fundamental research. If facilities for post-graduate training analogous to those provided at present are then offered, it will attract research students in proportion to its success as a research centre.”

CHAPTER III.—Organisation of Agricultural Research—*contd.*

The Board also made the following recommendations :—

- (a) that the provision of facilities for research work and for acquiring a knowledge of modern research methods and technique is all-important and involves a certain amount of definite but not formal instruction ;
- (b) that there is need for a special post-graduate course, of an original nature, for Assistant and Deputy Directors of Agriculture and that in some cases it will be desirable to give a refresher course in the various branches of agricultural science in order to assist students coming from a Provincial Department of Agriculture, who having left the University or the Agricultural College several years previously are not acquainted with the recent advances in pure science ;
- (c) that for university students seeking admission to the post-graduate courses it should ordinarily be insisted upon that they should hold the highest degree in science, short of a Doctor's degree, awarded by their University and that for agricultural graduates a first-class or a high position in the college gradation list should be demanded ;
- (d) that entry to the post-graduate courses should not be confined to men already in Government service but should be open to private students ; and
- (e) that in each province there should be a selection committee, on which due representation should be given to universities and that the recommendations of such selection committees should be placed before a selection committee at Pusa, which should have the final voice in the selection of students. The Pusa authorities should have power to admit students who have not gone before a provincial selection committee but who, in their opinion, are suitable for a post-graduate course.

The recommendations of the Advisory Board of the Council have been accepted by the Government of India, except that in regard to recommendation (c) it was considered that candidates possessing the B.Sc. degree with honours should also be eligible for selection for post-graduate training.

The question of providing increased facilities for higher agricultural education at the Imperial Agricultural Research Institute, New Delhi, has since been under consideration, but no action could be taken owing to financial stringency.

4. *Part to be played by Indian Universities in Agricultural development. (Recommendations 24 and 25—paragraph 62.).*

The Inter University Board continued to keep in touch with the Imperial Council of Agricultural Research and their representatives continued to sit on the Advisory Board and the other committees of the Council. The co-operation of the Universities in Agricultural Research under the aegis of the Council is thus maintained and by the end of the year 1937 research grants aggregating Rs. 5,49,050 had been sanctioned to nine Universities for fifteen schemes.

5. *Internal Co-ordination and Co-operation in Research Institutes. (Recommendation 26—paragraph 64.)*

Dr. B. A. Koen, who was Director of the Imperial Agricultural Research Institute in 1930-31, was of the opinion that under the then existing system of organisation of the Institute no advantage was to be gained by following the Rothamsted system. It was however decided that the recommendation should be reconsidered after the transfer of the Institute to New Delhi. It has since been decided that the existing Council of the Institute, consisting of the Director and Heads of permanent Sections of the Institute, should continue to function as an advisory body to be consulted in regard to administrative matters and questions relating to admission of post-graduate students and research workers. In addition :—

- (i) A "Staff Research Council" consisting of all Class I officers and the Statistician, has been constituted, as an experimental measure from February, 1937, for co-ordinating the research work in the various sections of the Institute. It will meet in the different laboratories by rotation and will consider monthly reports and programmes relating to the work of the Sections and suggest co-operative experiments, where necessary.

CHAPTER III.—Organisation of Agricultural Research—*concd.*

- (ii) General meetings of all the scientific staff of the Institute are held, for the present once in every two months, to discuss papers prepared for publication and the general progress of the scientific work of the Institute.

6. *Constitution of a Central Jute Committee. (Recommendations 28 and 29—paragraph 65.)*

The Indian Central Jute Committee, the establishment of which was recommended by the Royal Commission, was set up under a resolution of the Government of India dated 28th May, 1936. Its functions are research and enquiry into all the problems of the jute industry in India. It has a number of expert agricultural and scientific members and an equal number of representatives of the industrial and the agricultural side of jute. It is being financed, for the present, by grants from central revenues, to the extent which can profitably be spent by the Committee, subject to a maximum of Rs. 5 lakhs in any year. The first meeting of the Committee was held in February, 1937, when it constituted itself as a registered society.

7. *Establishment of additional sub-stations to the Pusa Institute. (Recommendation 30—paragraph 66.)*

The following sub-stations of the Imperial Agricultural Research Institute are financed at present by the Council :—

- (i) the Botanical sub-station at Pusa ; (ii) Sugarcane sub-station at Karnal ; (iii) Potato breeding research station at Simla ; (iv) Wheat breeding sub-station at Simla ; and (v) Tobacco sub-station at Guntur.

In addition the following sugarcane experimental stations financed by grants made by the Council are now in operation :—

Dacca (Bengal), Pusa (Bihar), Shahjahanpur and Muzaffarnagar (U. P.), Jullundur and Lyallpur (Punjab), Padegaon (Bombay-Deccan), Anakapalle and Gudiyattam (Madras), Jorhat (Assam), Mysore and Baroda.

A similar sugarcane research station is also to be opened shortly in North-West Frontier Province with the aid of a grant made by the Imperial Council of Agricultural Research.

These stations enable productions of the Imperial Sugarcane Breeding station at Coimbatore (itself a branch of the Imperial Council of Agricultural Research) to be thoroughly tested throughout India and the actual selections to be made under local conditions.

The Council has also made a grant for research work on the insect pests of sugarcane at the Imperial Agricultural Research Institute and a number of other provincial centres.

8. *Continuance of the Board of Agriculture. (Recommendation 31—paragraph 67.)*

The Board of Agriculture has been reconstituted as the " Board of Agriculture and Animal Husbandry in India ". It has been divided into two wings dealing respectively with Crops and Soils, and Animal Health and Animal Husbandry. It was the intention that each wing should meet biennially, meetings being arranged in alternate years, but owing to financial stringency meetings have been less frequent.

The last meeting of the old Board was held at Pusa in December 1929 ; the first meeting of the Animal Husbandry Wing was held in February 1933 ; and that of the Crops and Soils wing in February 1935. The second meeting of the Animal Husbandry Wing was held in Madras in December 1936 and that of the Crops and Soils Wing in Lahore in December 1937. The third meeting of the Animal Husbandry Wing has been fixed for February 1939.

CHAPTER IV.—Agricultural Improvement.

9. *Conservation of Fertilisers and investigation of certain problems of cultivation. (Recommendations 30, 31, 35, 36, 38, 68, 73 and 79—paragraphs 87, 91, 92, 94, 108, 112 and 115.)*

Recommendations 30, 31, 35 and 36. Restriction of the export and development of the use of indigenous fertilizers.—The Government of India have accepted the view of the Commission that no case can be made out for the imposition of an export tax on oil-seeds, oil-cakes, bones, bone-meal, fish manures and natural phosphates or for the prohibition of the export of these

CHAPTER IV.—Agricultural Improvement—*contd.*

products. Provincial Governments were informed accordingly and asked to take early steps (a) to investigate the possibilities of extending the oil-crushing industry and, in particular, to examine the question how far its development could be promoted by Government assistance in the matter of overcoming difficulties of transport and in the form of technological advice in regard to improved methods of manufacture and standardisation, (b) to investigate the economics of the bone-crushing industry, and (c) to investigate the extent to which fish manures could be used profitably for Indian agriculture and the price obtained for them in the export market.

The replies received from the Provincial Governments were passed on to the Imperial Council of Agricultural Research which appointed two committees, viz.: (1) Fertiliser Committee for the investigation of problems relating to the conservation of indigenous manurial resources, the development of the use of indigenous fertilisers and the preparation of a programme of research on fertilisers, and (2) Oil-crushing Industry Committee to deal with the question of developing the oil-seed industry. The Fertilisers Committee met for the first time in June 1930 and organised the compilation and examination of previous fertiliser experiments throughout India. At its second meeting in February 1931 the Committee considered the results collected, arranged for their publication and drew up a general programme of fertiliser experiments to be conducted on modern lines. The Indian Oil-crushing Industry Committee met twice in 1931 and again in 1933. A number of matters connected with the development of the Oil-crushing industry was considered and the co-operation of provincial departments of industry sought.

The Imperial Council of Agricultural Research made a grant of Rs. 30,000 per annum for three years and six months to the Harcourt Butler Technological Institute, Cawnpore, to assist their oil-technology section. It has disseminated information regarding faults in Indian oilseeds and vegetable oils. With the establishment of the Industrial Research Bureau (under the late Industries and Labour Department of the Government of India) the question of developing research in vegetable oil technology has been transferred to that body.

The Council has also assisted in the collection of data regarding the bone crushing industry, in the design of a small power driven bone-crusher (by offering a prize) and in experiments on rendering bones soluble by simple methods. The results of the latter have been published.

Recommendation 38. Legislation against adulteration of fertilizers.—This is now a provincial matter under the Government of India Act, 1935, but the question of giving a lead to the Provinces is under consideration.

Recommendation 68. Investigation into the economics of power cultivation in the Central Provinces with a view to the possibility of reclaiming of areas infested with kans grass.—This has been carried out in the Central Provinces and Bombay Deccan. The Imperial Council of Agricultural Research made a grant for the completion of the Burmah-shell Corporation's experiments in the Bombay Deccan and published their results as a monograph. The Council has also under consideration a scheme of research on the eradication of kans grass in Bhopal.

Recommendation 73. Problems of cultivation in dry and precarious tracts.—These matters are largely provincial but the Imperial Council of Agricultural Research has made grants to three provinces and one Indian State for a coordinated scheme of research on this group of problems.

Recommendation 79. Precautions against mixing of seeds in ginning factories.—Legislation for licensing of ginning and pressing factories has been passed in Bombay, Sind and Central Provinces and licensing is in vogue in Hyderabad and Indore States.

10. Railway Freight concessions on fertilisers and agricultural machinery. (*Recommendations 39 and 69—paragraphs 95 and 109.*)

The rates for manures on the principal railways, both State-managed and Company-managed lines, were reduced to the minimum permissible under the classification, i.e., 1/10th pie per maund per mile, in 1928. It was, however, found that advantage was being taken of this concession rate for various commodities which, while occasionally used as manures, were more largely utilised for other purposes. In 1931, Railways notified that the 1/10th pie rate would apply only to certain descriptions of manures and then too only on production of a certificate from a gazetted officer of the Agricultural Department. The list of fertilisers to which

CHAPTER IV.—Agricultural Improvement—*contd.*

the special rates applied was drawn up by Railway Administrations after taking into consideration the local conditions obtaining on each railway. Recently, owing to altered conditions, the rates for manures have been slightly enhanced; most of the principal Railways quote either C/I^r or C/R schedule, the basis of which is as follows:—

	Pie per maund per mile.
C/I ^r for any distance	0.140
C/R { 1—150 miles	0.140
151 miles and over	0.110

Freight rates on agricultural implements and machinery were re-examined in 1928, when it was decided to reduce the classification for such implements and machinery not worked by their own power (i.e., which is the only kind manufactured in India) from 2nd class (0.42 pie per maund per mile) to 1st class (0.38 pie per maund per mile) which is the lowest class in the Railways' General Classification of Goods. This revision of the classification had also the effect of removing the anomaly referred to in paragraph 313 of the Agricultural Commission's Report, regarding sugarcane mills not being included under agricultural implements.

11. *Modification of Rules framed under the Destructive Insects and Pests Act, 1914. (Recommendation 74—paragraph 113.)*

The Royal Commission held that no modification of the Rules framed under the Destructive Insects and Pests Act, 1914, so as to enable Directors of Agriculture to import prohibited material direct for experimental purposes was called for. This view was accepted and Provincial Governments were informed accordingly. The Rules have been amended with a view to prevent the introduction into British India of plant and fruit pests by air, and to restrict the import of Hevea rubber plants and seeds from America and West Indies, of coffee plants and unroasted and unground coffee seeds and beans and citrus plants. Aden has been excluded from the operation of the Rules but the restrictions imposed by the Rules continue to apply to all exports from Aden to other parts of British India.

The import of potatoes into India under a certificate from the Imperial Economic Botanist, Imperial Agricultural Research Institute, New Delhi, has been authorised in order to facilitate potato breeding experiments by that Institute.

The amendment of the Act with a view to enable the Central Government to control:—

- (i) the movement from one part of British India to another of living plants likely to cause infection to any crop; and
- (ii) the importation, and movement from one province to another, of live insects which may be destructive to crops in other ways than by causing infection to them; is under consideration.

12. *Co-operation of maritime Indian States in preventing the importation of Pests and Diseases from outside India. (Recommendation 75—paragraph 113.)*

The Imperial Council of Agricultural Research, to which the question was referred for advice, recommended that the most feasible method was to seek the co-operation of the maritime Indian States in dealing with each specified problem as it arose. This recommendation endorses the present practice and has been accepted by the Government of India.

The Indian States concerned are co-operating generally in the enforcement of the rules under the Destructive Insects and Pests Act.

13. *Strengthening of the Mycological and Entomological staff of the Central Government. (Recommendation 77—paragraph 114.)*

The recommendation was examined in connection with the general question of the measures which could be taken by the Government of India to assist the Sugar Industry and the Agricultural Adviser was requested to formulate schemes for strengthening the Imperial mycological and entomological staff to deal with pests and diseases of cane. Proposals submitted

CHAPTER IV.—Agricultural Improvement—*contd.*

by him were placed before the Imperial Council of Agricultural Research which has made a grant to the Imperial Agricultural Research Institute providing for a Mycologist and a staff for sugarcane diseases. The Imperial Council of Agricultural Research has made a grant for staff for research in sugarcane pests which is being carried on by the second Entomologist who has been relieved of his other duties.

14. *Grant of gun licences for the protection of crops and cattle from wild animals. (Recommendation 80—paragraph 116.)*

The Government of India examined the question and found that no further instructions to Provincial Governments were called for. The Tariff Board recommended that all fencing materials should continue to be free of the protective duty. The Government of India accepted the Board's recommendation and all iron or steel barbed or stranded wire and wire rope are subject only to the *ad valorem* revenue duty.

15. *Tariff Concessions. (Recommendations 45, 70 and 71—paragraphs 99 and 110.)*

Recommendation 45. Exemption of seeds, seedling plants, etc., from import duty.—The Royal Commission recommended that seeds, seedling plants and cuttings of exotic species and of exotic varieties of indigenous species imported for experimental sowing or planting should be exempted from import duty. In pursuance of this recommendation living plants were first exempted from duty in November 1929, by a notification under section 23 of the Sea Customs Act. This exemption was subsequently placed on a statutory basis by the Indian Tariff (Amendment) Act, 1930. A detailed examination of the recommendation regarding exemption of seeds was made in the Departments concerned but further consideration of it had to be postponed until the financial situation improved. The question will again receive consideration in the Central Board of Revenue along with similar requests for reductions or remissions of import duty in the interests of Indian industry when financial circumstances permit.

Recommendation 70. Rebate of import duties on iron and steel used in the manufacture of agricultural implements and machinery.—With reference to representations received by the Commission that whilst agricultural implements and machinery with a few exceptions were admitted into India free of duty, high protective duties were levied on imported iron and steel, it was recommended that the claims of manufacturers in India for a rebate of the import duties on iron and steel used in the manufacture of agricultural implements and machinery should be investigated by the Indian Tariff Board. It has been considered unnecessary to take any action in connection with this recommendation, as in any case in which it can be shown that an industry is hampered by reason of the fact that the duty on the finished article is lower than the duty on the materials required to be imported for its manufacture it is open to the manufacturers to apply for the removal of such inequality through the Tariff Board in accordance with the Commerce Department Resolution No. 38-T. (2), dated the 28th March, 1925, which was published in the *Gazette of India* of the same date. It may also be mentioned that as a result of the last Tariff Board Enquiry on the Iron and Steel Industry the protective duties on steel plates and structurals, not of British manufacture, have been substantially reduced. Similar British manufactures are now liable to a revenue duty only. Steel billets imported for re-rolling have further been exempted from customs duty in excess of the excise duty which is leviable on billets of Indian manufacture.

Recommendation 71. Interpretation of the term 'Agricultural implements' in the Tariff schedule.—In accordance with the recommendation of the Commission, pans for boiling sugar cane juice, sugar centrifuges and pug mills, and parts thereof, as well as incubators for poultry farming were exempted from import duty by the Indian Tariff (Amendment) Act, 1930. Since then flame throwers for attachment to spraying machines designed for the extermination of locusts and 'Latex cups' have been added to the free list of agricultural implements.

CHAPTER VI.—Demonstration and Propaganda.

16. *Discontinuation by the Board of Agriculture of its Review of the methods of Demonstration and Propaganda employed in the provinces. (Recommendation 1—paragraph 129.)*

In December 1929, the Board of Agriculture in India passed a Resolution recommending that a review of the organisation for all methods of agricultural propaganda and other extension work should find a place in the agenda for future meetings of both the Agricultural and Animal Husbandry wings of the Board. Effect has been given to this resolution and the subject included in the agenda of subsequent meetings. Agricultural propaganda and extension work is now receiving active consideration of the Imperial Council of Agricultural Research and the Government of India as a result of the recommendations made by Sir John Russell and Dr. Wright in 1937 regarding the work of the Council.

CHAPTER VI.—Demonstration and Propaganda—*contd.*17. *Government of India prize for agricultural improvements. (Recommendation 34—paragraph 150.)*

This recommendation has been accepted and the Imperial Council of Agricultural Research offers gold and silver medals annually for such inventions. An offer of a cash prize for an improved bone crusher was made but none of the entries submitted were found on test, to be good enough for the award of the prize.

CHAPTER VII.—Animal Husbandry.

18. *Export of cattle. (Recommendation 46—paragraph 204.)*

The Royal Commission hold that the export of cows and heifers is usually undesirable and should be carefully watched, but that unless the extinction of some valuable breed is threatened the export of breeding bulls should not be prohibited. In the case of certain breeds, export might be subject to licence.

The export of cattle is negligible except from the Madras Presidency. In order to watch the export of cows and heifers from that province, the Collector of Customs, Madras, was asked in May 1929 to maintain special statistics of the export of cattle under suitable heads. These statistics which continued to be maintained up to September 1934 showed that the great majority of the animals exported were bullocks and bulls, and it was considered that it would be to the advantage of India to develop this trade.

As regards the export of bulls, the Madras Government were asked whether they wished the prohibition of export of all cattle of the Ongole breed, which had been in force since 1922, to continue or whether the export of bulls of that breed might be permitted under licence. The Provincial Government agreed to permit the export of bulls and bullocks of the Ongole breed under licences to be issued by the Director of Agriculture, Madras, and the prohibition notification of 1922 was accordingly amended in January 1930.

19. *Establishment of a Central Institute of Animal Nutrition. (Recommendations 52 and 53—paragraph 209.)*

The establishment of an Institute of Animal Nutrition at Izatnagar and the transfer of the Physiological Chemist's Section of the Imperial Agricultural Research Institute from Bangalore to Izatnagar to form the nucleus of the Animal Nutrition Institute was sanctioned in June, 1936. The Institute has since come into being and forms part of the Imperial Veterinary Research Institute, as it was felt that there should be close contact between workers on problems of animal disease and those engaged on animal nutrition research.

20. *Animal Genetics. (Recommendations 54 and 55—paragraph 210.)*

Since April 1932, the Statistical Assistant attached to the Animal Husbandry Bureau has been engaged in carrying out a close analysis of the records of the very extensive cattle breeding which for many years has been carried on under strictly controlled conditions by the Military Dairies Department. A great deal of valuable information has thus been collected and published, in the proceedings of the Animal Husbandry Wing Meeting held in Delhi in February 1933, and in the Council's Journals, as to the results which have been obtained by this organisation in the improvement of indigenous dairy cattle and by cross-breeding. Similar analyses have been made of the systematic breeding which has been carried on at Government Farms where accurate records have been kept and steps have been taken to ensure that all such records shall in future be maintained on similar lines suitable for proper statistical analysis of the data.

The publication of these records has done a great deal to focus attention on the hitherto unsuspected capacity for economical milk and butter fat production of Indian cow of pure indigenous origin.

A scheme for the establishment of an Animal Genetics Section of the Imperial Veterinary Research Institute at Izatnagar was prepared, but had to be postponed for financial reasons. The question of providing a scholarship for a post-graduate student to undergo training in Animal Genetics in accordance with the recommendation of Dr. Wright is, however, under the consideration of the Imperial Council of Agricultural Research.

CHAPTER VII.—Animal Husbandry—*contd.*21. *Dairying Section of the Imperial Institute of Animal Husbandry and Dairying, Bangalore. (Recommendations 56—60—paragraph 211.)*

These recommendations were discussed at a conference held in Simla in October, 1928. The view taken by almost all the provincial representatives at the conference was that there was demand for higher training in dairying which the provincial agricultural colleges were not then in a position to meet and that therefore it would be premature to close down the dairy section of the Institute. Provincial Governments were informed that, in deference to this opinion, the Government of India did not intend to make any immediate change in the organisation of that section. They were however asked to examine the recommendations of the Royal Commission (i) that a thoroughly efficient dairy school should be established as an integral part of one or more agricultural colleges and (2) that the curriculum of all agricultural colleges should include instruction in cattle-breeding, the feeding of dairy cows and the handling of milk, and they were asked to report what action they proposed to take in regard to them. Their replies showed that instruction such as was recommended by the Royal Commission was already provided at the various agricultural colleges. The replies of Provincial Governments in regard to the other recommendation were referred to the I. C. A. R. and the latter was of opinion that there was great scope for one or two central institutes for education and research in dairying. Shortly afterwards it became necessary to reorganise the Imperial Agricultural Research Institute and its sub-stations, owing to the need for economy on account of financial stringency, and it was decided, in 1932, that the institutes at Bangalore and Wellington and the Imperial Cattle Breeding Farm at Karnal should be retained but on a somewhat reduced scale. Experimental cross-breeding was discontinued at both Bangalore and Wellington and the supply of milk at both places was restricted to the demands of the troops. The Creamery at Anand was closed down. Chemical assistance at Bangalore was arranged for by the transfer of an officer from Pusa.

In 1936 the Imperial Institute of Animal Husbandry and Dairying, Bangalore, and the farm at Wellington were separated from the Imperial Agricultural Department and constituted into a separate office called 'Imperial Dairy Institute', directly subordinate to the Government of India. The Karnal farm was transferred to the control of the Imperial Agriculturist, Imperial Agricultural Research Institute, New Delhi. The Sindhi and Gir herds and the herd of Murrah buffaloes are maintained at Bangalore and the Thar Parker herd at Karnal. No experiments in cattle-breeding are undertaken at the latter place. The Hariana herd which was formerly maintained at Karnal has been transferred to Izatnagar for genetical studies. Certain proposals for the expansion of the Bangalore Institute and the establishment of a new Creamery at Anand were sanctioned by Government in 1936, but they have had to be postponed indefinitely pending a decision on the recommendations of Dr. Wright regarding future dairy organisation under the Central Government.

22. *Continuance of the Cattle Bureau. (Recommendation 62—paragraph 211.)*

An Animal Husbandry Bureau was started under the Imperial Council of Agricultural Research in November 1933, with a nucleus staff consisting of a Statistical Assistant and a clerk, to collect, collate and disseminate information required for proper development of Animal Husbandry in India. An all-India system of registration of pedigree stock based on a definition of the breed characteristics of the best known milch breeds of cattle is proposed to be introduced in the near future and officially controlled milk recording is to be undertaken in the case of these breeds. As a preliminary measure, records from the more important farms all over India were collected, checked and collated and the first instalment comprising a year's records from April 1936 to March 1937 is now under print. It is hoped that the publication would be of value to breeders, dairymen and to investigators engaged in the study of inheritance and production of milk yield. Considerable progress has been made in regard to the definition of the breed characteristics of the important breeds of Indian cattle.

A village enquiry into the production and consumption of milk in 7 important cattle breeding tracts was undertaken and the results have recently been published. This was a sampling survey under appropriate statistical control and important fundamental data have been obtained.

Data regarding the economics of milk production by Gowalas all over India were collected and their analysis is being carried out.

The staff of the Bureau was strengthened in 1937 and arrangements were made for the collection and analysis of data at Military Dairy Farms relating to the growth and milk production of dairy cattle in India.

CHAPTER VII.—Animal Husbandry—*contd.*23. *Cattle conferences. (Recommendation 62—paragraph 211.)*

The Animal Husbandry Wing of the Board of Agriculture and the Animal Husbandry Research Workers Conference have generally taken the place of the Cattle Conferences.

The first meeting of the Animal Husbandry Wing of the Board of Agriculture and Animal Husbandry was held in February 1933. Action was taken to implement a number of recommendations accepted by the Wing, including the formation of Standing Cattle Breeding, Dairying and Animal Nutrition Committees. The second meeting of the Animal Husbandry Wing was held in December 1936. Action has since been taken to implement a number of its recommendations, including the formation of a Standing Central Fodder and Grazing Committee by the Imperial Council of Agricultural Research.

A Cattle Conference was held in Simla in May 1937 and was attended by Provincial Ministers and their technical advisers and representatives of certain important Indian States. The Conference adopted a number of important resolutions and endorsed the recommendation of the Animal Husbandry Wing regarding the formation of a Central Fodder and Grazing Committee. It also recommended the formation of Provincial Fodder and Grazing Committees. Such Committees have since been set up in Assam, the North West Frontier Province, Madras, the Punjab and the United Provinces and Bombay. Central Provinces and Berar, Bihar and Orissa are expected to follow suit. A meeting of the Central Fodder and Grazing Committee was held in November 1937.

24. *Representation of the interest of Animal Husbandry on the Council of Agricultural Research. (Recommendations 63—65—paragraph 212.)*

This has been accepted and Colonel A. Oliver, C.B., C.M.G., F.R.C.V.S., was appointed Animal Husbandry Expert to the Imperial Council of Agricultural Research from the 18th April, 1930. The sanction to the post has been extended up to the 17th April, 1940.

As stated under item 23 above Standing Committees of the Imperial Council of Agricultural Research have been set up for Animal Nutrition Research, Cattle Breeding and Dairying. In addition *ad hoc* Committees consider all schemes and review annually the reports of the Disease Investigation Officers, who are engaged, under a scheme financed by the Council, in systematic investigation of stock diseases in all major provinces and states affiliated to the Council. Special Committees have also been set up to deal with helminthology, sheep and goat breeding and apiculture.

CHAPTER VIII.—Forests.

25. *Railway freight on fodder, wood, charcoal and coal. (Recommendations 5 and 7—paragraphs 219 and 220.)*

Fodder.—This is classified as first class (0.38 per ton per mile). Most principal railways quote special schedule rates considerably lower than the ordinary classified rate for this commodity when carried at owner's risk and in wagon loads, the rates over the state-managed railways being as follows:—

Eastern Bengal	Schedule C*/C; †W/120.
East Indian	Schedule C/D*; †W/120.
Great Indian Peninsular	Schedule CB, CJ*; †W/100, in through booking. Schedule Q*; on carrying capacity, in local booking.
North Western	Schedule C/R*; †W/270 in through booking. Schedule L/T* in local booking.

CHAPTER VIII.—Forests—*contd.*

Calculated rates (exclusive of terminals) for certain distances for the schedules referred to above are as follows :—

Distances.	Per maund.				Per 4-wheeled Wagon.	
	C/O.	C/D.	C/B-C/J.	C/R.	L/T.	Q.
	Rs. as. p.	Rs. as. p.	as. p.	as. p.	Rs.	Rs.
50	0 1 3	0 1 1	1 5	0 7	11	16
100	0 2 6	0 2 1	2 9	1 2	22	31
200	0 5 0	0 4 2	5 7	2 3	39	59
300	0 7 6	0 6 3	8 4	3 2	52	84
400	0 10 0	0 8 4	10 0	4 1	64	106
500	0 12 0	0 10 5	11 8	5 0	77	128
700	1 1 6	0 14 7	13 10	6 10	102	172
900	1 6 6	1 2 9	15 6	8 8	127	216

Wood.—Firewood, which is the commodity the Royal Agricultural Commission had in mind, is classified 1st class, i.e., 0·38 pie per maund per mile. Most principal Railways quote, however, special schedule rates which are lower than the ordinary classified rate for this traffic when carried in wagon loads at owner's risk; the rates over the State-managed Railways being as follows :—

Eastern Bengal	*C/N; W/300. †
East Indian	*C/R; W/300.†
Great Indian Peninsula	*C/Q; W/300 in through booking.†
	*Q; on carrying capacity in local booking.†
North Western	*C/R; W/300.†

The calculated rates per maund for various distances for the schedules referred to above are as follows :—

Distances.	C/N.	C/R.	C/Q.	Q. Per 4-wheeled wagon.
	As. p.	As. p.	As. p.	Rs.
50	1 5	0 7	0 10	16
100	2 6	1 2	1 5	31
200	4 0	2 3	3 1	59
300	5 5	3 2	4 3	84
400	6 6	4 1	5 5	106
500	7 4	5 0	6 7	128
700	9 0	6 10	8 3	172
900	10 8	8 8	9 11	216

*These letters are merely distinctive marks adopted by Railways for certain bases of charge other than those adopted for class rates which are distinguished by numbers 1, 2, 2A, 2B, 2C, 3, etc.

† W indicates the minimum load in maunds per 4-wheeled wagon to which the rates apply.

Charcoal.—This is also classified 1st class (i.e., 0·38 pie per maund per mile). Most of the principal Railways quote special schedule rates for this traffic when carried in wagon loads at owner's risk; the rates over the E. I., G. I. P. and N. W. Railways are as follows :—

East Indian the same rate as for hard coke (i.e., rate for coal including Sur charge.)

Great Indian Peninsular	C/Q; W/300
North Western	C/Q; W/300

The calculated rates per maund for various distances for schedule C/Q referred to above are as follows :—

Distances.	Rates.
	As. p.
50	0 10
100	1 5
200	3 1
300	4 3
400	5 5
500	6 7
700	8 3
900	9 11

CHAPTER VIII.—Forests—contd.

Coal.—This is charged over most principal railways at a special scale, the basis of which is as follows (plus a surcharge of 12½% subject to a maximum of Re. 1 per ton) :—

	Pie per md. per mile.
(i) <i>For traffic carried for distances 400 miles and under :—</i>	
For all distances up to 200 miles inclusive	0.105
Plus for any distance in excess of 200 miles and up to 400 miles inclusive	0.13
(ii) <i>For Traffic carried for distances over 400 miles :—</i>	
For all distances up to 200 miles inclusive	0.16
Plus for any distance in excess of 200 miles and up to 400 miles inclusive	0.06
Plus for any distance in excess of 400 miles	0.05

The freight rates for all the commodities specified above are on a very low basis, and Railways have not felt justified in making any further reductions in these rates.

CHAPTER IX.—Diseases of livestock and their control.

26. *All-India Contagious Diseases of Animals Act. (Recommendation 14—paragraph 246.)*

A draft Bill and model rules thereunder were prepared and circulated to Provincial Governments. The suggestions and amendments received were examined by a Special Committee and the Advisory Board of the Imperial Council of Agricultural Research. The Bill and the model rules are now being re-examined in the light of the constitutional changes.

27. *Revision of the emoluments of Veterinary Advisers to Local Governments. (Recommendations 23 and 24—paragraph 251.)*

In view of the diversity of opinion which existed on this question it was decided by the Government of India not to adopt a uniform rate of emoluments for veterinary advisers in the provinces. Provincial Governments were informed accordingly and told that they might, if they so desired, reconsider the question in the light of the recommendations of the Royal Commission. The emoluments of the posts of Director, Veterinary Services, in the Punjab and in the Madras Presidency when held by members of the I. V. S. have been revised with the sanction of the Secretary of State.

28. *Higher Veterinary Training. (Recommendations 43—46—paragraph 258.)*

The recommendations for the institution at one of the existing veterinary colleges of a course of training for candidates for the provincial veterinary services was taken up in 1931, and generally speaking, accepted by all Provincial Governments. The majority of them however made it clear that they would be unable to proceed with the expansion of their provincial veterinary services while present financial conditions continued. For the same reason the Government of India also found themselves unable to proceed with this recommendation. It has been estimated that if the veterinary college at Lahore were selected for the purpose, the scheme would involve an immediate non-recurring expenditure of Rs. 1,325 and a recurring expenditure of Rs. 70,760, and an ultimate non-recurring expenditure of Rs. 86,825, and a recurring expenditure of Rs. 1,01,470, exclusive of the cost of a dairy, which would probably be required as an adjunct to the college. The Government of India were unable to find these sums, even if they accepted them as a legitimate charge on central revenues, and as Provincial Governments were evidently not in a position to do so, it was decided to defer further consideration of the proposals.

A scheme for the establishment of a Central Veterinary College in India, capable of imparting education up to the highest standard (equivalent to that of the M. R. C. V. S.) in Veterinary Science, Animal Husbandry and allied subjects, to Indian students, is under consideration.

29. *The Imperial Institute of Veterinary Research, Muktesar. (Recommendations 49—55 and 59—paragraphs 262—264.)*

The Government of India accepted the view of the Commission that Muktesar was well suited for the prosecution of research into animal diseases and that a second Imperial Institute of Veterinary Research was not required. In view of the isolation of Muktesar the Royal Commission recommended that Government should take all reasonable measures to increase the amenities of life at that station. It has been decided that each case as it arises should be dealt with in the light of this recommendation.

CHAPTER IX.—Diseases of livestock and their control—*contd.*

The Secretary of State was asked to recruit a Director of the Institute with the qualifications and experience on which stress was laid by the Royal Commission, but it was not found possible to recruit a suitable officer outside India and an experienced officer of the I. V. S. was appointed as Director. On the abolition of the post of Agricultural Adviser the administrative control of the Institute, as recommended by the Commission, passed to the Director of the Institute.

A scheme was prepared for the reorganisation of research work at the Institute at Muktesar into three sections dealing with Pathology, Serology and Protozoology, each having two Class I officers, one to be in charge of the section and the other to act as his deputy. The first two sections have been functioning for some time with the full complement of staff. The Protozoological Section came into being in 1936 when a Systematic Protozoologist (a Class I officer) was appointed for a period of five years. The pay of this post is met by the I. C. of A. R. In 1937 a Protozoologist was appointed to hold charge of the Section and the Class II post of Entomologist was converted into a Class I post and added to it. The Section has thus three Class I officers at present.

Two new Sections of the Institute have also been established at Izatnagar—one for Animal Nutrition Research and the other for Poultry Research. The designation of the Imperial Veterinary Serum Institute, Izatnagar, has been changed to " Biological Products Section of the Imperial Veterinary Research Institute, Muktesar".

The Director has been provided with a Personal Assistant to relieve him of routine administrative and secretarial work.

The recommendation that an effort should be made to distinguish as fully as possible between the expenditure on research and that on manufacturing operations was accepted, and the system of cost accounts was introduced at the Imperial Veterinary Serum Institute (now called Biological Products Section), Izatnagar, from the 1st August, 1930. It was considered unnecessary to introduce this system at Muktesar since about 90 per cent. of the total quantity of sera and vaccines produced was manufactured at Izatnagar and the policy was to concentrate all manufacture there. On the basis of the cost of production for 1931-32 at the Izatnagar Institute the selling rates of most of the products were considerably reduced.

30. *Revival of the appointment of the Inspector-General, Civil Veterinary Department, or the creation of a post of Veterinary Adviser to the Government of India. (Recommendation 56—paragraph 264.)*

The view of the Royal Commission that neither of these posts was necessary has been accepted. The Vice-Chairman of the I. C. of A. R., acting with the Animal Husbandry Expert to the Council, advises the Government of India in veterinary matters.

31. *Standing Committee of the Imperial Council of Agricultural Research to deal with Veterinary matters. (Recommendations 57-58—paragraph 264.)*

On the recommendation of the Animal Husbandry Wing of the Board of Agriculture and Animal Husbandry, standing committees have been appointed to deal with animal nutrition, cattle breeding and dairying, and special committees to co-ordinate helminthological research in India and deal with the reports of the Disease Investigation Officers who are employed in provinces and states under a grant from the Council. A special committee was also appointed to draft the proposed all India Act for the control of contagious diseases among live-stock in India. These Committees usually meet in conjunction with the meetings of the Advisory Board.

CHAPTER X.—Irrigation.

32. *Establishment of a Central Bureau of Information on Irrigation matters (including matters arising out of Hydro-electric development). (Recommendations 19, 20, 25 and 37—paragraphs 285, 288 and 295.)*

The Central Bureau of Information for Irrigation was established in 1931 to perform the functions contemplated for it by the Royal Commission on Agriculture. It was financed by the Government of India during the year 1931-32, and since then it has been maintained from the contributions of the Central and Provincial Governments (except the Central Provinces) and certain Indian States. It is now functioning as an independent body under the direct control of the Central Board of Irrigation.

CHAPTER X.—Irrigation—*contd.*

The Bureau consists of a Secretary with a small office, including a library. The Bureau has no special powers; it is the office of the Central Board of Irrigation and a centre of information. Like the Central Board of Irrigation, the Bureau is now a well established institution, and its usefulness is recognised by all the Provinces with important irrigation interests.

33. *Transfer of District Canals in the N.-W.-F. P. to the charge of the Irrigation Department. (Recommendation 35—paragraph 293.)*

The Chief Commissioner was consulted and his proposal that the technical control of the main District Canals should be transferred to the local irrigation Department but that the revenue control should remain with the revenue authorities was sanctioned as an experimental measure for a period of two years from 1st April, 1930. Towards the end of that year it was represented by the local Administration that this arrangement was unworkable and after further consideration of the matter orders were issued for the transfer, as an experimental measure up to the 31st March, 1933, of the complete management, both technical and revenue, of all civil canals in the province to the Irrigation Department which was to function for this purpose in close touch with the Deputy and Revenue Commissioners concerned. The N.-W. F. P. having become a Governor's province in 1932 further action on the part of the Government of India became unnecessary, but it is understood that the Provincial Government have continued the arrangement under which the entire management of the civil canals is carried on by the local Irrigation Department.

34. *Irrigation in Baluchistan. (Recommendation 36—paragraph 294)*

A temporary post of Superintending Engineer for Irrigation in Baluchistan has been sanctioned. Several works of importance to the Administration have been carried out. Owing, however, to the need for economy, it has not been possible to undertake new works of magnitude recently and the activities of the irrigation staff have been confined mainly to the management and maintenance of the existing canals.

CHAPTER XI.—Communications and Marketing.

35. *Periodical revision of railway freight rates with a view to the adjustment of their incidence and removal of anomalies—Freight concessions for livestock and empties for fruit and milk. (Recommendations 15, 16, 18 and 47—paragraphs 313, 315 and 345.)*

Railway rates are constantly under examination by Railway Administrations and adjustments are made from time to time to meet special cases as they arise. The Commission in this connection referred to two anomalies in railway freight charges as deserving of examination :—

(a) sugar-cane mills not being classified under agricultural implements;

(b) charges for newly born calves being the same as for a full grown cow.

As regards (a), this anomaly has since been removed by the revision of the classification for agricultural implements (*vide* remarks under item 10).

As regards (b), calves not more than 3 feet 6 inches high at the shoulder when accompanying parent animals in the same vehicle are carried free.

Quarter parcel rates were introduced, with effect from the 1st August, 1929, for the carriage of return empty milk cans and fruit cases by passenger train.

The necessity for the rapid transport of livestock is recognised, but it has not been found practicable to carry by passenger train livestock booked at goods rates.

The question of making it compulsory for railways to unload cattle after travelling 200 miles was examined by the Indian Railway Conference Association who were unable to recommend its adoption as :—

(a) it would be difficult to work such a rule

(b) the arrangement would not be popular with owners.

The Railway Board agreed with these views.

CHAPTER XI.—Communications and Marketing—*contd.*

36. *Eradication of Water Hyacinth. (Recommendation 23—paragraph 318.)*

The Imperial Council of Agricultural Research financed a research scheme by Professor Parija of Cuttack which cleared up the question of reproduction of the water hyacinth. Water hyacinth is now being effectively controlled in Orissa as a result of organised local action.

The Bengal Water Hyacinth Act, 1936, also provides for the effective control of water hyacinth in Bengal.

37. *Post and Telegraph facilities. (Recommendation 23—paragraph 319.)*

No use has been made of the collective guarantee system by any Provincial Government, Administration or private party and consequently no post or telegraph office was opened within British Indian territory under the system.

37-A. *Establishment of well regulated markets. (Recommendations 24—51—paragraphs 320 and 329—349.)*

The establishment of the office of the Agricultural Marketing Adviser to the Government of India was sanctioned in the Government of India (Imperial Council of Agricultural Research Department) resolution No. F.-16-M./34, dated the 10th January, 1935. As a result of the discussion at the Provincial Economic Conference in 1934, it was found that provinces were unable to finance provincial marketing staffs themselves. The Government of India made a grant to the Imperial Council of Agricultural Research of 10 lakhs for expenditure in the provinces in addition to providing the central marketing staff. Most provinces have supplemented the minimum staff of three Assistant Marketing Officers paid from the Council's grant and each province has provided a Provincial Marketing Officer to control the local staff.

The results of the surveys undertaken by the marketing staff in respect of several commodities revealed that if the grower was to receive better returns for his produce it was essential that the question regarding the establishment of regulated markets should receive the early attention of Provincial Governments. The subject was accordingly discussed in detail at the Marketing Officers' Conference held in Simla in September, 1937, and the conference agreed that the following recommendations should be forwarded to Provincial Governments and States:—

1. That the Markets Acts, for the establishment of regulated markets in Central Provinces, Bombay, Madras and Hyderabad be commended to the notice of other Provincial Governments.
2. That more rapid progress should be made in establishing regulated markets under existing Markets Acts, which should be extended in all cases to cover all agricultural produce dealt with in a regulated market.
3. To ensure more rapid progress, it is essential that a Government department should be directly responsible for taking the initiative in the establishment of such markets.
4. That the local marketing staff should in this matter be closely associated with the department concerned.
5. That in the course of the present survey of "Markets and Fairs" senior Marketing Officers in Provinces and States should investigate and report on particular points of detail which are susceptible of improvement in the running of regulated markets.

Accordingly Provinces and States were addressed by the Imperial Council of Agricultural Research Department and the replies received indicated that steps were being taken for the establishment of regulated markets in respect of important commodities and attempts were being made for having suitable legislation for the purpose.

38. *Standardisation of weights and measures. (Recommendation 37—paragraph 339.)*

The Royal Commission recommended that the Government of India should again undertake an investigation into the possibility of standardising weights and measures throughout India, and should lay down general principles to which provincial Governments should adhere, so far as this is possible, without undue interference with local trade customs.

CHAPTER XI.—Communications and Marketing—*contd.*

When they made this recommendation, the Royal Commission appear not to have been aware that the Government of India had made enquiries, at the beginning of 1927, as to the progress made by Provincial Governments in standardising weights and measures. The results of that enquiry show that progress in the direction of standardising weights and measures has been more substantial than the Royal Commission thought. Some of the Provincial Governments have already enacted legislation for the standardisation of weights and measures, e.g., the Central Provinces, Coorg and Bombay, while most of the other Provincial Governments have taken executive action for the standardisation of weights based on the Railway system.

Under the Government of India Act, 1935, Provincial Governments are now responsible for weights and measures, while the Central Government is concerned only with the establishment of standards of weight. The question of undertaking legislation to define standards of weight is receiving the earnest attention of the Government of India.

39. Grain Elevator System. (*Recommendation 46—paragraph 316.*)

The establishment of grain elevators was not recommended by the Commission. This view has been accepted by the Government of India.

40. Investigations into the possibilities of Cold Storage to be carried out under the auspices of the Railway Board. (*Recommendation 48—paragraph 316.*)

Investigations are being made by the Imperial Council of Agricultural Research in regard to the question of fruit preservation and transport especially for the overseas market. The possibility of exporting mangoes in good condition to England was demonstrated by experimental shipments in 1932 and 1933. The fruit storage scheme which is in progress at Poona is providing technical data regarding the optimum conditions of temperature and humidity for the commercial storage of Indian mangoes and oranges, the commercial storage life of different varieties and the correct stage of picking and the suitability of various important varieties for transport and storage.

A bi-weekly refrigerated transport service for the carriage of provisions and stores from cold storage depots in Calcutta has been arranged from Howrah to serve stations up to Delhi, but the traffic offering is small and only in one direction, and it has shown no tendency to increase. Although repeated endeavours have been made to find a use for the vans on the run from Delhi to Howrah they have been unsuccessful.

Towards the end of 1937 a firm put into commission a mechanically refrigerated cold storage van, providing different compartments with varying degrees of cold for the carriage of a variety of perishable products. This van has up to the present moment been used chiefly for the carriage of sea fish from Karachi to Delhi, Cawnpore and Howrah and the consignments are reaching their destinations in an excellent condition.

Permission for such vans being owned by private individuals has been granted subject to the Railway Administration having the right to acquire them after ten years, if such acquisition is considered necessary or desirable.

41. Expert assistance in Agriculture and Co-operation to the Indian Trade Commissioner in London and the Director General of Commercial Intelligence and Statistics, Calcutta. (*Recommendation 51—paragraph 319.*)

The Royal Commission suggested that an officer with experience of agriculture and co-operation in India should be attached to the staff of the Indian Trade Commissioner in London and to that of the Director General of Commercial Intelligence in Calcutta.

The recommendation regarding expert assistance for the Indian Trade Commissioner in London has been accepted in principle, but owing to financial stringency the question of appointing an officer has been held in abeyance.

As regards similar assistance for the Director General of Commercial Intelligence and Statistics, it is thought that he is already in a position to get all the expert advice he wants from the provincial Directors of Agriculture and the exporters at the Indian ports.

CHAPTER XI.—Communications and Marketing—*conold.*

42. *Appointment of Trade Commissioners in other countries. (Recommendation 52—paragraph 349.)*

A scheme for the appointment of six Indian Trade Commissioners, one each at Hamburg, Milan, New York, Alexandria, Durban and Mombasa, has been sanctioned with the approval of the Secretary of State. In pursuance of this scheme the offices of the Trade Commissioners at Hamburg and Milan were opened on the 1st March, 1931, and 1st February, 1935, respectively. Officers for the Mombasa and New York posts have also been selected and they are expected to open their offices in the beginning and middle of 1938 respectively. The question of appointing an Indian Trade Commissioner at Alexandria is now being actively pursued. An Indian Trade Commissioner has also been appointed to Japan and he opened his office in Osaka on the 8th April, 1937. This appointment is outside the scheme mentioned above.

CHAPTER XII.—The Finance of Agriculture.

43. *Review of position of money lenders. (Recommendation 23—paragraph 368.)*

The recommendation of the Royal Commission that the position of the money-lenders should be reviewed periodically by the Income-tax Department has been accepted and a review of the position is now included annually in the All India Income-tax Report and Returns published by the Central Board of Revenue.

CHAPTER XIII.—Co-operation.

44. *Co-operative movement in Minor Administrations. (Recommendation 15—paragraph 378.)*

The Royal Commission held that there was justification for a larger contribution from Government funds to the expenses of the co-operative movement in backward tracts, such as some of the minor administrations. As a result sanction was given to certain additional staff in the N.-W. F. P. (which was then a minor administration). In Delhi four Sub-Inspectors have been added to the staff of the Co-operative Department. In Ajmer-Merwara the grant-in-aid to the Co-operative Societies Salary Fund sanctioned in 1927 for a period of five years was continued for a further period of five years though, owing to financial stringency, the amount had to be reduced from Rs. 7,000 to Rs. 5,000 per annum. From 1936-37 the grant has been raised to Rs. 8,000 per annum for a period of five years. Out of rupees one crore set aside in the Central budget for 1935-36 for rural development a sum of Rs. 15 lakhs was earmarked for co-operative training and education and out of this sum Coorg and Delhi have been allotted Rs. 20,000 and Rs. 9,000 respectively. The allotment to Ajmer-Merwara was Rs. 11,160.

A loan of Rs. 1½ lakhs has been sanctioned to the Bawar Central Co-operative Bank, Ltd., Ajmer-Merwara, to enable it to tide over its financial difficulties. The provision of additional staff for the Co-operative Department in Ajmer-Merwara is under consideration.

45. *All-India enquiry into the co-operative movement. (Recommendation 39—paragraph 389.)*

The view taken by the Royal Commission that an all-India enquiry into the progress of the co-operative movement was not necessary was accepted by the Government of India.

CHAPTER XIV.—The Village.

46. *Production of quinine and control of its distribution. (Recommendations 10 and 11—paragraphs 411 and 412.)*

The Governments of Madras and Bengal were asked for their views on the recommendation of the Royal Commission that the development of cinchona cultivation, the manufacture of quinine, and the control of distribution so far as price within India was concerned should be made a responsibility of the Central Government, and to state the terms on which they would be prepared to transfer their plantations and factories to the Government of India if it were decided to give effect to the Royal Commission's recommendation. The Government of Madras

CHAPTER XIV.—The Village—*contd.*

were willing to transfer their plantations and factory to the Government of India but the Government of Bengal were not in favour of the proposal as they did not consider that the mere centralisation of the provincial Cinchona Departments would solve the problem of fighting malaria on a large scale. Apart from this objection to the proposal, it was not possible in 1931 for the Government of India, in the state of financial stringency which then prevailed, to find the money for the purchase of the cinchona plantations and factories in Bengal and Madras. Moreover it was then anticipated that the new constitution would deprive the Government of India of their power under the Devolution Rules to control the production, supply and distribution of quinine. It was therefore decided to take no action for the time being on the recommendation. The recommendation for the establishment of a research institute for the investigation of cultural difficulties met with in the growing of cinchona was also dropped as it was considered that the only hope of such investigation being undertaken lay in the formation of a strong Imperial Department.

The new constitution has, as anticipated, deprived the Government of India of their power of control over the production, supply and distribution of quinine and the Central Government's plantations in Burma have, on the separation of that Province from India, been transferred to the new Government of Burma.

At the instance of the Government of India the I. C. of A. R. have undertaken an inquiry into :—

- (1) the areas suitable for cinchona cultivation in India ; and
- (2) the cost of production in those areas.

The results of the inquiry, it is expected, will throw considerable light on the possibility of increased quinine production in India.

The Central Board of Health, at its inaugural meeting held in June, 1937, recommended that in the interests of India as a whole the Government of India should resume their control over the production and supply of quinine. Consideration of this recommendation has been postponed pending the receipt of the report on the inquiry referred to above.

47. *Medical Aid. (Recommendation 12—paragraph 413.)*

Proposals for establishing an enlarged Central Medical Research Institute have been considered, but for financial reasons the question has been held in abeyance. In the meantime certain additions and alterations to the present Central Research Institute at Kasauli have been carried out to improve working conditions and to develop a section of Medical Entomology.

Attention has been directed to improvement of general rural health. An allotment of 45,000 lbs. of quinine to the Provinces was made in 1935 for free distribution. A crore of rupees has also been allotted to provinces for rural reconstruction work.

The need for periodical consultation in the framing of common policies and for the interchange of information in the domain of Public Health, has been recognised, and to fulfil this need a Central Advisory Board of Health was established in 1937, with the following functions :—

- (a) To Act as a Central Information Bureau on all public health matters affecting India and as a clearing house for such information ;
- (b) To advise on any matter referred to it by the Central or Provincial Governments ; and
- (c) To make suggestions to Government on any matters affecting public health in India to which the Board considers that Government's attention should be drawn.

At its inaugural meeting in June 1937 three major items concerning the health of the people were discussed and suitable resolutions passed. The items were :—

- (i) Quinine supplies in India ;
- (ii) The organisation of Provincial Public Health Departments ; and
- (iii) Nutrition surveys.

CHAPTER XIV.—The Village—*concl'd.*

The problem of food adulteration in India with special reference to the legislation and standards in force in the provinces, is being investigated by an *ad hoc* Committee appointed by the Board.

In co-operation with the Rockefeller Foundation a Health Unit was established in the Delhi Province in 1937 with its centre at Najafgarh. The cost of the Unit is defrayed partly by the Foundation and partly by the Central Government. The Rockefeller Foundation has already co-operated with the Governments of Madras and the United Provinces in the establishment of similar health units.

48. Human Nutrition. (Recommendations 13, 15—17 and 19—paragraphs 414 and 417.)

Recommendations 13 and 15 to 16.—The problem of human nutrition continues to receive the close attention of the Government of India. In May, 1936, a Nutrition Advisory Committee was set up by the Indian Research Fund Association, which is a non-official organisation maintained mainly by grants from the Central Government. The Central Board of Health has also interested itself in problems of nutrition and passed many important resolutions, mostly concerning the Provinces, at its inaugural meeting.

In addition to the appointment of a nominee of the Indian Research Fund Association on the Advisory Board of the Imperial Council of Agricultural Research, the Council have reserved a seat for this nominee on the Animal Health and Husbandry Wing of the Board of Agriculture in India. On the recommendation of the Nutrition Advisory Committee, the I. R. F. A. have appointed a Liaison Officer at the Imperial Agricultural Research Institute, New Delhi, who would provide a link between agricultural research and research on human nutrition.

On the recommendation of the Nutrition Advisory Committee three young medical men have been trained as nutrition field workers and they have started their work.

Recommendation 17.—Proposals for the establishment of a Central Medical Research Institute, in which a Nutrition Section was proposed to be included, have been considered, but have had to be held in abeyance for financial reasons. Problems of human nutrition are however being investigated at the Nutrition Research Laboratory at Coonoor, Nilgiris, under the auspices of the Indian Research Fund Association. Valuable data have been collected from investigations in that laboratory on Deficiency diseases, Vitamin standards, Analysis of foodstuffs, Animal experiments, Tissue Culture, etc. By an extension of the field activities of the laboratories anthropometric data, bearing on nutrition, education and propaganda have also been collected. Through the agency of the Nutrition Advisory Committee there has been held at Coonoor a three months' course in human nutrition designed to equip health officers selected by the Central and Provincial Governments with a more intimate knowledge of the practical side of nutrition work. Officers from seven Provinces and one Indian State attended the course.

The importance of propaganda work with regard to nutrition is being energetically pursued. The Government of India have issued a 'Health Bulletin' prepared by Dr. Aykroyd, Director of the Coonoor Institute, which gives the results of his more recent work in connection with the analysis of 200 common Indian foodstuffs. Notes on the value of skimmed milk and on other points have also been issued from time to time by the Director of the Coonoor laboratory. A set of educational posters is being prepared.

The Director, Nutrition Research, Coonoor, has also carried out diet surveys in the Nilgiris, Mysore, Travancore, Kashmir and Assam, and surveys in several other parts of the country are in progress. In each case the state of nutrition of the population whose diet is investigated has been studied by various methods.

A section of Bio-Chemistry and Nutrition has also been opened at the All-India Institute of Hygiene and Public Health at Calcutta where several aspects of the problem are being tackled in co-ordination with the Coonoor Laboratory.

Recommendation 19.—The Director of the Nutrition Research Laboratory, Coonoor, and the Professor of Nutrition and Biochemistry, Calcutta, are in close touch with research workers in other parts of the world.

CHAPTER XV.—Education.

40. Post-graduate training in agricultural science. (Recommendations 42 and 43—paragraph 480.)

Please see the remarks under item 3.

CHAPTER XV.—Education—*contd.*50. *Educational Conferences. (Recommendation 47—paragraph 483.)*

In order to ensure a closer interchange of opinion and experience in educational matters throughout India, a Central Advisory Board of Education has been established with the following functions and constitution :—

(i) *Functions :*

- (a) To advise on any educational question which may be referred to it by the Government of India or by any Provincial Government.
- (b) To call for information and advice regarding educational developments of special interest or value to India ; to examine this information and circulate it with recommendations to the Government of India and to Provincial Governments.

(ii) *Constitution :*

- (a) The Honourable Member in charge of the Department of Education, Health and Lands (Chairman). On occasions when he is unable to preside over a meeting of the Board, he will have the right to appoint a deputy.
- (b) The Educational Commissioner with the Government of India.
- (c) Ten nominees of the Government of India, of whom one at least shall be a woman.
- (d) One member of the Council of State elected by the Council of State.
- (e) Two members of the Legislative Assembly elected by the Legislative Assembly.
- (f) Three members of the Inter-University Board, India, nominated by the Inter-University Board of India.
- (g) A representative of each Provincial Government, who shall be either the Minister in charge of Education (or his deputy) or the Director of Public Instruction (or his deputy).

The term of office of the non-official members has been fixed for three years, while the official members are to continue until they are replaced by others. There is a Secretary to the Board, who is appointed by the Government of India. It will thus be seen that the Board affords an opportunity for the exchange of opinions relating to all provinces in India.

The first meeting of the Board was held in December, 1935, at which a number of important resolutions dealing with educational reconstruction and unemployment in India were passed. The Board considered that expert advice would be of value in organising this scheme. In consultation with Provincial Governments and Local Administrations, the Government of India accordingly invited two educational experts, Mr. A. Abbott, C.B.E., formerly His Majesty's Chief Inspector of Technical Schools, Board of Education, London, and Mr. S. H. Wood, M. C., Director of Intelligence, Board of Education, London, to investigate and advise in the matter. Their report entitled " Vocational Education in India with a section on General Education and Administration " was published in July 1937. Copies of it have been forwarded to Provincial Governments for consideration.

At its first meeting the Board also appointed Standing Committees on Women's Education, Secondary Education, Vernacular Education and Vocational and Professional Education to which are co-opted, when desirable, experts from all parts of India.

The Women's Education Committee have already made certain recommendations regarding primary education of girls. These are being implemented by the Provincial Governments.

Primary Education, in general, has been under the active consideration of the Central Board since its second annual meeting in December, 1936.

CHAPTER XV.—Education—*concl'd.*

As a result of a recommendation of the Board, the Bureau of Education has also been revived under the control of the Educational Commissioner with the Government of India to deal specifically with the collection and dissemination of literature relating to educational problems in the various provinces in India.

CHAPTER XVI.—Rural Industries and Labour.

51. *Indian Lac Association (Recommendation 8—paragraph 499.)*

The suggestion made by the Indian Lac Association for Research that the Government of India should introduce fresh legislation for a continuance of the Lac cess and for the constitution of a statutory committee for the control of the Research Institute and the Lac Cess Funds was accepted by the Government of India and the Indian Lac Cess Committee established by the Indian Lac Cess Act, 1930, which was brought into force on the 1st August, 1931. The act has recently been amended to enable the constitution of the Committee to be modified.

52. *Internal Migration. (Recommendation 21—paragraph 508.)*

The Tea Districts Emigrant Labour Act (XXII of 1932), which was enforced on 1st October, 1933, has withdrawn from Provincial Governments the power of prohibiting emigration to the tea-gardens in Assam. Restrictions on recruitment still exist, but have been reduced to a minimum and are subject to revision.

53. *Emigration. (Recommendations 23 and 24—paragraph 510.)*

It has been decided that no further action on these recommendations is called for at present.

CHAPTER XVII.—Horticulture and Plantations.

53-A. *Development of the fruit and vegetable industries. (Recommendations 3—15—paragraphs 515—519.)*

Recommendations 3—5—Difficulties in regard to the transport of fruit and absence of suitable marketing arrangements.—During the course of certain fruit marketing surveys, the question regarding the use of improved containers for different fruits was also studied and experiments are being conducted at different stations. The introduction as far as possible of adjustable shelves in railway wagons for the transport of fruits and of general reduction in freight charges on all fresh fruits in India received attention. Facts and figures showing how improved service would help the trade are being collected with a view to approaching the authorities concerned.

Recommendation 6.—Possibilities of developing an export trade.—The Imperial Council of Agricultural Research financed experimental shipments of Bombay (alphonso) mangoes to London in 1932 and 1933. The experiments were technically successful and a small profit was made in 1932. In 1933, a loss was incurred mainly due to the premature operations of a Bombay commercial firm which flooded the market with mangoes and itself incurred severe loss. At present there is no regular cold storage accommodation for fruit in steamers sailing from Bombay and this militates against the development of an export trade. This question will be taken up again as soon as the storage experiments in progress at Poona have provided definite information regarding optimum temperature and humidity conditions, the advantages, if any, of gas storage for mangoes, and other technical details. (Please see also remarks under item 40).

The Imperial Council of Agricultural Research has now arranged experiments on the gas storage of fruits and an officer has been trained recently at the Low Temperature Research Station, Cambridge, and on the Continent.

CHAPTER XVII.—Horticulture and Plantations—*contd.*

Recommendations 7, 8, 10, 11 and 13. Development of Fruit and Vegetable industries, establishment of regulated markets and provision of cold storage, etc.—These matters are being dealt with in the marketing survey referred to above. Very marked interest in fruit-growing has developed during the last few years and the areas under fruit cultivation in some provinces, especially the Punjab, have increased. This increase is due partly to a desire to find more profitable crops in view of the fall in prices of staple commodities. The increasing imports of fruit from abroad indicate that an increase in fruit consumption is taking place in the Presidency towns and that the market is expanding.

Fruit marketing surveys have been completed and the reports are under compilation. The Report on the Marketing of Grapes in India is expected to be issued shortly and others will follow. These reports will set out as clearly as possible the present system of marketing and will suggest ways and means of improvement therein.

Several grading stations for different fruits were established in various parts of the country during the season. The results of these experiments are given in detail in the different reports issued by the Agricultural Marketing Adviser from time to time. Fruit Development Boards Associations, etc., have also been constituted by certain provinces.

The results of a short investigation made in Delhi Province to study the existing methods of storage and transport of perishable agricultural produce are contained in a report on the subject issued by the Agricultural Marketing Adviser in October 1937. In this report seasonal supplies and prices are examined with a view to showing the economic possibilities of applying improved methods of cold storage on a more extensive scale.

In December 1935 the co-operation of the Imperial Council of Agricultural Research was enlisted in the organisation of research into the best methods of refrigeration—both in store and in transport. For this purpose the Government of India undertook to provide the Imperial Council of Agricultural Research with funds up to one lakh of rupees. An Inter-Departmental Standing Committee was set up to effect liaison and co-operation in the development of Cold Storage.

Out of the funds provided to the Council on this account, a small grant was made to the Government of the Punjab for experiments conducted at Lyallpur on the preservation of certain fruits. Experiments with refrigerated railway vans were started by the Railway Board in co-operation with the Defence Department, the programme being decided by the Inter-Departmental Committee already referred to and the necessary funds being made available from the special grant made by the Government of India. The experiments have reached a stage when one van has been completed, has undergone part of its trials and will be put through a complete set of commercial trials.

Recommendations 9, 12 and 15. Selection and classification of suitable root stocks and encouragement to nurseries for orchard stock and the production of vegetable seeds.—In view of the increasing interest in fruit growing the Imperial Council of Agricultural Research has made grants for fruit research schemes in 10 Provinces and 2 Indian States. These grants are all for work on approved co-ordinated programmes which include, *inter alia*, the testing of both stocks and scions. East Malling and Merton and apple-stocks are under test at the United Provinces hill fruit research station, a collection of indigenous citrus and other stocks has been made and is under study at Lyallpur (Punjab). A study is being made of the indigenous species of citrus in Assam, while mango stocks are being studied at Poonn and Sabour (Bihar).

Recommendation No. 14—Record by Marketing Officers of information regarding fruit and vegetable products.—Reports containing a complete record of the marketing conditions in respect of grapes, bananas, apples, oranges, mangoes, etc., have been received from several Provinces and States and are being summarised for the compilation of All-India Reports.

54. *Representation of Planting Community on the Council of Agricultural Research (Recommendation 17—paragraph 521.)*

The Indian Tea Association and the United Planters' Association of Southern India are represented jointly on the Advisory Board of the Imperial Council of Agricultural Research.

CHAPTER XVIII.—Statistics.

55. *Improvement of Statistics.* (Recommendations 1, 2, 4, 7, 8, 16—19, 21, 22 and 24-25—paragraphs 525 and 530—534.)

Recommendations 1, 2 and 7. Earlier publication and improvement of the "Agricultural Statistics of India".—These recommendations were accepted and sanction was given to the additional staff required in the office of the Director General, Commercial Intelligence and Statistics, to cope with the additional work involved.

Recommendation 4. Crop forecasts.—The Government of India have agreed to revive the practice of issuing forecasts in leaflet form and the necessary instructions have been issued. As regards the translation of forecasts into the vernaculars it has been decided that the Director General, Commercial Intelligence and Statistics, should supply copies of the All-India forecasts in leaflet form to Provincial Governments, etc., who will, at their discretion, publish vernacular translations or arrange for publicity through the medium of the vernacular press.

Recommendation 8. Distinctions in reports on education between urban and rural areas and adoption of a uniform classification of schools.—Instructions have been issued for the collection of separate figures for rural and urban areas. The question of securing some measure of uniformity in the classification of schools in British India was referred to Provincial Governments but on account of diversity of opinion among them it was decided to place it before the Central Advisory Board of Education in India, when revived. The question of the classification of schools was accordingly brought to the notice of the Board at its first meeting held in 1935. But, in view of the fact that a wide scheme of educational reconstruction was under consideration in certain provinces in India, it was considered premature for the Board to pass a resolution on this complicated problem. The Board, however, passed an important resolution, on the general question of school reconstruction which was forwarded to Provincial Governments for consideration. The question of the uniform classification of schools in India was again referred to the Board at its second meeting held in 1936. The Board held that at present a uniform classification was not possible or even desirable as any reorganisation as a result of its resolution referred to above might involve fundamental changes.

Recommendation 16. Statistics of tea production.—The Government of India will give careful consideration to any request from the tea trade for the introduction of legislation with a view to improve the statistics of tea production.

Recommendation 17. Statistics of Coffee.—The main ground for this recommendation was the incompleteness of the statistics of coffee in that they did not include figures relating to plantations of less than ten acres each. After consultation with the Government of Madras (who were also asked to obtain the views of the United Planters' Association of South India), the Chief Commissioner, Coorg, and the Resident in Mysore, instructions were issued that a start should be made by collecting statistics for plantations between five and ten acres but that these should be shown in the returns separately from the statistics for plantations of ten acres and over.

(Recommendations 18-19.

The Indian Central Jute Committee, which was constituted in 1936, is attempting, as a first step, to improve the accuracy of the jute crop forecast by the application of modern statistical methods. In 1937 the Committee carried out, in co-operation with the Government of Bengal, the first series of experiments on a census and a random sampling of the jute crop sown in two thanas. It is intended to link this work with the cultivators by utilising services of primary enumerators under union boards.

The Committee also received from the Indian Jute Mills Association complete monthly figures of production, manufactures and stocks at the end of each month during 1937. Further experiments and measures are under consideration.

Recommendation 21. Statistics of Inland Trade.—A scheme for the compilation of Inland Trade (Rail and River-borne) Statistics which was drawn up in 1931, but had to be held in abeyance owing to financial stringency, was put into operation with effect from 1st April, 1933. A committee consisting of certain officials with the Director General, Commercial Intelligence and Statistics, as Chairman was appointed in May, 1937, to consider the question of amplification of the Accounts relating to the Inland Trade of India. Their report is awaited.

CHAPTER XVIII.—Statistics—contd.

Recommendation 22. Collection of Statistics of the trade on the main roads crossing the frontiers of India.—The Government of India were unable to accept the recommendation.

Recommendation 24. Holding of the quinquennial census of livestock simultaneously throughout India.—This recommendation was accepted and the necessary instructions were issued to Provincial Governments, etc.

Recommendation 25.—Uniformity of classification in the cattle census.—The question of uniformity of classification was considered in February, 1933, by the Animal Husbandry Wing of the Board of Agriculture which appointed a sub-committee to go into details. The recommendations of this Committee, which were approved by the Advisory Board of the I. C. A. R., were referred to Provincial Governments, etc., and after consideration of their replies heads were prescribed under which returns should be made, and Provincial Governments were asked to adopt this classification for the quinquennial census held in January, 1935.

On the recommendation of the I. C. A. R. it has been decided to revise the tables attached to the Annual Reports of the Civil Veterinary Departments in India with a view to achieve uniformity in their compilation.

Miscellaneous.—In the fourth sub-paragraph under paragraph 525 of their report, the Royal Commission recommended that indigo statistics should be omitted from the volume of "Estimates of Area and yield" as this crop could no longer be regarded as one of the principal crops of India. This recommendation was accepted and instructions were issued for the discontinuance of the indigo forecasts, but it was decided that the estimates of area and yield of this crop should be included in Supplementary Table No. 18 of the "Area and Yield" volume.

56. *Application of mathematics to agricultural research.* (Recommendation 32—paragraph 538.)

Dr. B. A. Keen, late Director of the Imperial Agricultural Research Institute, who was asked for his views, recommended the abolition of the post of Agronomist which already existed on the staff of the Institute, and the creation in its place of a class II post of Statistician with high qualifications in mathematics whose main duty would be to apply statistical methods to field experiments. The proposal was accepted and a Statistician was appointed in 1933.

57. *Constitution of a separate Department of Statistics.* (Recommendations 34-35—paragraph 539.)

The Royal Commission recommended that the present statistical organisation of the Government of India should be strengthened by the appointment of a statistician of first rate ability as head of a separate Department of Statistics. They held that the appointment of this officer should precede any changes in the present arrangements for statistical work but expressed the hope that, as a result of the appointment, a Bureau of Statistical Information would be created with the administration of which leading economists, scientists and business men would be closely associated.

Certain schemes for the expansion and improvement of economic statistics have been given effect to. It was also decided in connection with the question of the development of an economic organisation at the headquarters of the Government of India to open a new branch of the Commercial Intelligence and Statistics Department at headquarters to carry out more specialised statistical investigations leaving routine work to be performed as hitherto at Calcutta. A Statistical Research Branch was accordingly established at headquarters in July, 1933, on a temporary basis and the present sanction lasts up to the end of February, 1938. An Economic Adviser to the Government of India is also to be appointed shortly in pursuance of the scheme for the establishment of an Economic Intelligence Organisation at headquarters.

58. *International Institute of Agriculture, Rome.* (Recommendation 36—paragraph 540.)

Full use is made of the statistics compiled by the International Institute of Agriculture, Rome. India took part in the world census of agricultural production, 1931, to such extent as her existing system of statistics permitted.

CHAPTER XVIII.—Statistics—concl'd.

India continues to adhere to the International Institute of Agriculture, Rome, and is represented on the Permanent Committee of the Institute, which now meets quarterly at Rome, by the High Commissioner for India, London.

CHAPTER XIX.—Agricultural Services.

59. *Placing of officers of the Indian Agricultural service and of the Superior Provincial Agricultural services on an age for age equality with officers of other services of similar standing. (Recommendation 19—paragraph 555.)*

The Royal Commission suggested that officers of the I. A. S. and future class I officers of the Provincial Agricultural Services should be placed as far as possible on an age for age equality of pay with services of a like standing, such as the Educational and Forest Services. A request to this effect made by I. A. S. had been turned down in 1922 and again in 1926. The question was however re-examined by the Government of India with reference to the I. A. S. but they did not consider that there was sufficient justification for re-opening it, since, as the result of the recommendations of the Public Services (Lee) Commission, this Service would gradually disappear. In so far as the Provincial Agricultural Services were concerned it rested with the Provincial Governments to decide whether the recommendation of the Royal Commission should be accepted.

60. *Relations of Research Workers in India with Research Workers abroad. (Recommendation 23—paragraphs 558-559.)*

The question was discussed at a meeting of the Advisory Board of the Imperial Council of Agricultural Research in June 1930. It was resolved that while workers from abroad would be welcomed in institutions in India, on due notice being given of their intended visit, it would not ordinarily be possible to arrange for exchange of workers from India, owing to the paucity of staff. The whole-time officers of the Imperial Council of Agricultural Research are encouraged to pay visits to the Imperial Bureaux in the United Kingdom while on leave or deputation. The Vice-Chairman of the Council visited several stations in the United Kingdom and in the Near East in 1930 and also in 1936 and 1937. The Expert Advisers visited the various bureaux in 1931, 1932, 1934 and 1937 as opportunity arose.

61. *Central Agricultural Service. (Recommendations 32-45—paragraphs 563-566.)*

Recommendation 32. Constitution of the Staff of the Pusa Institute and its sub-stations into a Central Agricultural Research Service.—In accordance with the general principles decided upon for the classification of services under the Civil Services (Classification, Control and Appeal) Rules, the posts at the Imperial Agricultural Research Institute and its sub-stations, other than those which are borne on the cadre of the I. A. S., have been included in General Central Service, Class I.

Recommendations 33 and 35-38. Composition and recruitment of the staff at Pusa.—In 1932 the Sugarcane Expert at Coimbatore and the Imperial Dairy Expert* were given the status of Heads of Sections. In the case of Heads of sections recruitment is made by simultaneous advertisement in India (through the Federal Public Service Commission) and in the United Kingdom (through the High Commissioner for India). For other Class I posts recruitment is restricted in the first instance to India, and, if a suitable candidate is not available in India, recourse is had to recruitment in the United Kingdom. Officers already in Government service, including I. A. S. officers, whether employed under the Central Government or Provincial Governments, are eligible to apply. Appointments to permanent posts are made on a permanent basis.

*The Dairy Section of the Institute has since been constituted into a separate office under the Imperial Dairy Expert, directly subordinate to the Government of India,

CHAPTER XIX.—Agricultural Services—*contd.*

Recommendation 34. Strengthening of the staff of class I officers.—The question of re-organising the Imperial Institute of Agricultural Research was held over until the arrival of Dr. B. A. Keen, of the Rothamsted Experimental Station, who was selected by the Secretary of State as Director of the Institute. The proposals submitted by Dr. Keen for additional expenditure could not be carried out owing to the financial stringency which then prevailed. On the contrary some reductions had to be made in the staff. Subsequently, owing to the earthquake of 1934 and the consequent decision to shift the Institute to New Delhi, it was not considered feasible to create new posts till the Institute was established on its new site. The transfer of the Institute to New Delhi has since been completed and a scheme for the expansion of its activities is under consideration.

Recommendation 39. Pay of the Director.—Please see the remarks against item 2. Dr. B. A. Keen who was engaged temporarily on contract was given a pay of Rs. 2,500 p. m. *plus* overseas pay of £13 6s. 8d. The present pay of the Director is Rs. 2,000—50—2,250 *plus*, if of non-Asiatic domicile, overseas pay £13 6s. 8d.

Recommendations 40 and 41. Pay of Heads of Sections and Class I posts.—In the course of the general revision of the scales of pay of the services the pay of General Central Service, Class I, posts at the Pusa Institute and its sub-stations has been fixed, for new entrants, at Rs. 275—300 (probationary period)—325—25—650 (E. B.)—35—1,000 *plus* special pay of Rs. 150 for Heads of Sections. Officers of the Indian Agricultural Service appointed to posts in the Institute draw pay at the rates of pay of that Service. The initial pay of the selected candidate is fixed at the discretion of Government at a point in the scale in accordance with his qualifications, experience and age, and if he is already in permanent government service the substantive pay drawn by him at the date of his appointment is taken into consideration.

Recommendation 42. Employment of class I officers on a provident fund basis.—This has been accepted.

Recommendation 43. Designation of class II officers.—The designation of class II officers has been changed although not on the lines recommended by the Royal Commission. The designations: lecturers, demonstrators, etc., recommended by the Commission were open to the objection that they conveyed the idea that these officers were devoting most of their time to teaching; on the contrary research forms their main duty. The designations "First Assistant to the Imperial Mycologist", "Second Assistant to the Imperial Entomologist", etc., have been changed to "Assistant Mycologist", "Second Assistant Entomologist", etc.

Recommendations 44 and 45. Pay of Class II posts and tenure of appointment.—For class II posts the revised rate of pay for new entrants is Rs. 200—15—350 (E. B.)—20—650. Initial pay is fixed as in the case of class I posts. Provincial Service officers drawing pay in the Provincial Service scale of Rs. 250—750 when appointed to class II posts come on to the scale of Rs. 250—250—300—20—600 (E. B.)—25—800 on the stage next above their Provincial Service scale *plus* Rs. 50. Recruitment is made through the Federal Public Service Commission and appointments to permanent posts are made on a permanent basis.

62. *Cost of visits paid by the Pusa staff to the provinces.* (*Recommendation 46—paragraph 567.*)

The Royal Commission suggested that the cost of visits paid by the members of the Central Agricultural Research Service to the provinces, whether in the course of their ordinary work or to assist in dealing with a specific problem, should be regarded as part of the normal expenditure of the Imperial Agricultural Research Institute. It has been decided that when any cases of the character discussed by the Royal Commission arise in future, they should be disposed of in the light of the recommendation of the Commission and the head of the Institute has been instructed accordingly.

CHAPTER XX.—Miscellaneous.

63. *Agricultural organisations in minor administrations. (Recommendations 1—5—paragraphs 572-573.)*

The recommendations were referred to the Heads of Minor Administrations. It was reported by the Chief Commissioner, Delhi, that the Agricultural and Veterinary staff of the Delhi Province worked under the supervision of the Punjab officers in technical matters and that the proposals formulated in the Punjab on the recommendations of the Royal Commission on Agriculture will eventually be applied to Delhi. The Chief Commissioner, Baluchistan, recommended the appointment of an Agricultural officer and this proposal was sanctioned. Sanction was also given to the appointment of a small subordinate staff. In the North-West Frontier Province (which was then a minor administration) a post of Extra Assistant Director of Agriculture and four posts of Agricultural Assistants were sanctioned, while for the development of the Civil Veterinary Department a sum of Rs. 15,000 was provided in 1931-32 to meet the cost of four additional Veterinary Assistant Surgeons, equipment, etc., and for grants-in-aid to district boards for cattle breeding. In order to ensure the staffing of the subordinate veterinary service by qualified men a number of scholarships was sanctioned to enable candidates from this province to undergo a course of training at the Punjab Veterinary College, Lahore. A grant of Rs. 5,600 per annum for a period of three years was sanctioned to facilitate the agricultural development of Manpur Pargana, an isolated area in the Central India Agency 49 square miles in extent and with a population of 4,565 persons (mostly Bhils). This scheme was however subsequently abandoned as a measure of retrenchment as it was felt that in this particular case no adequate return could be expected from the outlay. The Chief Commissioner, Ajmer-Merwara, was informed that the Government of India were in complete agreement with his view that the first essential was that Ajmer-Merwara should have a qualified agricultural officer of its own and should develop a programme of expansion in conformity with this advice after he had gained local experience and studied the somewhat peculiar conditions of the province. It was suggested that efforts should be made to obtain a suitable senior officer of the provincial agricultural service for this purpose. No action could however be taken on this suggestion owing to continued financial stringency.

Funds to the extent of Rs. 15,000 (recurring) have been allotted in the estimates for 1938-39 for an agricultural organisation in Ajmer-Merwara and the appointment of an Agricultural Officer is under consideration. An equal recurring grant and a non-recurring grant of Rs. 25,000 have also been made to that minor province for the improvement of Animal Husbandry work.

Proposals were received for the reorganisation of the agricultural department in the Andamans but owing to financial stringency they could not be proceeded with.

In connection with the general question of supervision over agricultural and veterinary organisations in minor administrations the Royal Commission recommended that the Director of Agriculture and the Director of Veterinary Services of the neighbouring major province should be appointed advisers to the head of the minor province concerned and should visit that province occasionally. The Government of India after careful examination of this recommendation came to the conclusion that, except, in the special case of the Delhi province (and also of N. W. F. P. which, however, is no longer a minor administration) the arrangement proposed was open to the objection that it would be impossible for the Director to devote efficient attention to the needs of the minor province and was not therefore suitable. Minor Administrations already had the fullest liberty to ask assistance of the experts of the Imperial Institutes at New Delhi and Muktesar and of the I. C. A. R. The Government considered that this provided all the assistance the minor administrations required in dealing with their agricultural and veterinary problems. The minor Administrations were informed accordingly.

It has since been decided to place the agricultural and animal husbandry organisations in Ajmer-Merwara under the technical control and supervision of the Directors, Imperial Agricultural Research Institute, New Delhi, and Imperial Veterinary Research Institute, Muktesar, respectively.

64. *Co-operation of Indian States in agricultural (including veterinary) and co-operative matters. (Recommendation 9—paragraph 575.)*

Indian States are co-operating more closely than before in the activities of the Imperial Council of Agricultural Research. Besides the states of Hyderabad, Mysore, Baroda, Kashmir, Travancore, Bhopal and Cochin, which have already joined the council as members, enquiries from several states have been received. Research grants have been made by the Council to Hyderabad, Mysore, Baroda and Travancore,

CHAPTER XX.—Miscellaneous—*contd.*

The re-constituted Board of Agriculture and Animal Husbandry in India and the Indian Central Cotton Committee have representatives of several Indian States.

The States of Hyderabad, Mysore, Baroda, Kashmir, Travancore, Bhopal, Patiala and Pudukottai have appointed their own marketing officers and continue to co-operate with the Central marketing staff. In addition, the assistance of about 200 other states has been secured in the all-India Marketing Surveys.

65. *International Institute of Agriculture, Rome. (Recommendations 13—15—paragraph 578.)*

Please see remarks under item 58. When the Imperial Council of Agricultural Research took over the responsibility for the annual grant to the Institute, the need for a representative on the Permanent Committee became apparent. The High Commissioner for India, London, was appointed Indian representative on this Committee.

Officers of the agricultural and allied departments are encouraged to visit the International Institute of Agriculture at Rome.

66. *Agricultural Meteorology. (Recommendation 11—paragraph 577.)*

In August 1932, the Imperial Council of Agricultural Research undertook to finance a five year scheme of work on agricultural Meteorology at a cost of Rs. 2,05,000. This scheme was put forward by the Director-General of Observatories, Poona, and included a detailed study of the "Microclimate" or the Meteorological conditions immediately surrounding the growing crop. The work under the scheme is of practical value to agriculture and the Imperial Council of Agricultural Research has recommended that the Agricultural Meteorology Branch should be made a permanent activity of the Indian Meteorological Department. This recommendation is under the consideration of the Government of India. Meanwhile the Council has agreed to finance the scheme till 1939-40. The full co-operation of provincial agricultural departments was secured and they have benefited by the work of the Agricultural Meteorological Branch.

67. *Imperial Institute, London. (Recommendations 16 and 17—paragraph 579.)*

In paragraph 579 of the report the Commission recommended that wider publicity should be given in India to the facilities offered by the Imperial Institute and suggested that one method of doing this would be by a larger distribution of the quarterly Bulletin issued by the Institute.

A list of institutions in India to which complimentary copies of the quarterly bulletin of the Imperial Institute may be distributed for publicity purposes was prepared and forwarded to the Imperial Institute in 1930 so that the Institute might consider the desirability of sending to the institutions gratis initial copies of the bulletin with a view to extending their sale. A note regarding the constitution and functions of the Institute was also prepared and forwarded to Provincial Governments and Administrations for circulation amongst officers of the technical departments under their control and they were asked to furnish the Government of India with a list of such technical officers, who were not on the free distribution list of the bulletin of the Institute, to whom a further distribution of the bulletin might be made with advantage. A consolidated list showing the additional official authorities whom Provincial Governments had suggested for inclusion in the free distribution list of the bulletin, was forwarded to the Institute in 1931, but in view of its financial position the Institute did not find it possible to supply copies free to them but agreed to send them complimentary copies of one issue of the bulletin with an invitation to become regular subscribers. Provincial Governments and Administrations were informed accordingly on 7th December, 1931.

The Royal Commission also recommended that the question of re-organising the Indian gallery at the Imperial Institute and of renewing the subscription for its maintenance should be considered.

CHAPTER XX.—Miscellaneous—*concl'd.*

The Government of India had already taken up this question before the Royal Commission reported. It was decided in April, 1928, that the Indian galleries at the Institute should be regarded as part of the general scheme for the exhibition of Indian products. It was also decided that the exhibits for the galleries should be financed from the publicity grant of the High Commissioner for India which was increased by £200 for this purpose. As a result many of the exhibits in the Indian gallery were overhauled and brought up to date. At the Imperial Conference held in London in 1930, the financial position of the Imperial Institute came under consideration and it was found that the work of the Institute on the then-existing scale could not be carried on unless the contributory Governments of the Empire increased their contributions. The recommendation was that if the extra money required could not be found the exhibition galleries presented the one field where economy might be least regrettable. The Government of India accordingly agreed to the closing down of the exhibition galleries. They have since discontinued their annual contribution to the Imperial Institute.